

Noise - Supplemental Information

Noise Emitters – Tub and horizontal grinders, bulldozers, front end loaders, semis, triple axle dump trucks. Noise is cumulative. A medium sized tub grinder from Moorbark produces 66 db of noise at 300 feet; WHO recommends general daytime noise levels of less than 55 dB to prevent significant community annoyance. The decibel scale is logarithmic. Noise causes loss of community and is both a sign and a cause of aggression and violence. Add to 66 db, the noise of all the other machinery operating at the same time.

The World Health Organization has identified eight categories of adverse health effects of noise pollution on humans.

1. Interference with Speech Communication
2. Noise-Induced Hearing Impairment
3. Sleep disturbance effects
4. Cardiovascular and psychophysiological effects
5. Mental health effects
6. Effects on performance
7. Annoyance responses
8. Effects on social behavior

Ref: Berglund B, Lindvall T. (eds.) Community Noise. Archives of the Center for Sensory Research. 1995;2:1-195.

TRPA Environmental Threshold Carrying Capacity Noise Standards	
Land Use	CNEL Noise Standard (dBA)
High Density Residential	55
Low Density Residential	50
Hotel	60
Commercial	60
Industrial	65
Urban Outdoor Recreation	55
Rural Outdoor Recreation	50
<i>Notes: [CNEL] Community Noise Equivalent Level; dBA = A-weighted decibels [TRPA] Tahoe Regional Planning Agency Source: Extracted from TRPA 2007: pp 9-3,4</i>	

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Penn State Extension of College of Agricultural Sciences

"Noise Induced Hearing Loss in Agriculture

Tractors, forage harvesters, silage blowers, chain saws, skid-steer loaders, grain dryers, squealing pigs and guns are some of the most typical sources of noise on the farm. Studies suggest that lengthy exposure to these high sound levels have resulted in noise induced hearing loss to farmers of all ages, including teenagers."

OSHA Permissible Noise Exposure	
Duration per day (hours)	Sound Level dB(A)
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼	115

Typical Equipment Noise Levels			
Equipment Type	Noise Level (L_{max}) 50 feet	Noise Level (L_{max}) 100 feet	Noise Level (L_{max}) 300 feet
Bulldozer ¹	85	79	70
Dump Truck ¹	84	78	69
Wood Chipper ²	81	75	66
Front End Loader ¹	80	74	65
<i>Note¹: Noise levels are from Federal Highway Administration (FHWA) 2006 data</i>			
<i>Note²: The reference sound level for Morbark 1100 Tub Grinder is provided by Oxygen Environmental Ltd., Article 12 Compliance Information, 22 Dec 2004</i>			